

REMARKS

This paper is being filed in response to the Office Action mailed January 12, 2005.

Claims 1-7 are pending in the application. Claims 1, 3, and 5-7 have been amended.

The Examiner has objected to applicant's title as being not descriptive. Applicant has amended the title to read "CAMERA INCLUDING CAM MEMBER FOR INTERLOCKING IMAGE-TAKING OPTICAL SYSTEM AND VIEW FINDER OPTICAL SYSTEM OF THE CAMERA." The amended title is believed to be clearly indicative of the invention to which the claims are directed.

The Examiner has objected to applicant's claims 3 and 5-7 due to certain informalities. Particularly, the Examiner has required that the phrase "so as to move further away from each other" in applicant's claims 3 and 5-7 be replaced with the phrase "so that the lens units are moved further away from each other." Applicant has amended claims 3 and 5-7 as suggested by the Examiner, thereby obviating the Examiner's objection.

The Examiner has rejected applicant's claims 1-7 under 35 USC §103(a) as being unpatentable over FIG. 17 of the present application (disclosed as prior art by the applicant) in view of the Abe, et al. (US Patent Application Publication No. 2003/0107667) publication. The Examiner's rejection is respectfully traversed.

Applicant's independent claim 1 recites a camera comprising a lens unit having a movable lens of a view finder optical system, a cam member having a cam which engages with the lens unit and driving the lens unit, a first energizing member which energizes the cam member in one of moving directions of the cam member, and a second energizing member which energizes the lens unit so as to contact the cam surface, wherein the direction of a force generated by the force of the second energizing member applied to the cam member through the contact

between the lens unit and the cam surface in the moving direction of the cam member substantially matches the energizing direction of the first energizing member. Applicant's independent claim 5 recites a camera including a second energizing member which energizes the lens unit so as to contact the cam surface, wherein the second energizing member energizes the two lens units which engage with the two cams so that the lens units are moved further away from each other. Applicant's independent claims 6 and 7 recite similar features.

The constructions recited in applicant's independent claims 1 and 5-7 are not taught or suggested by the cited art of record. In particular, the Examiner has acknowledged that FIG. 17 does not specifically disclose wherein throughout the entire area of the cam, the direction of a force generated by the force of the second energizing member applied to the cam member through the contact between the lens unit and the cam surface in the moving direction of the cam member substantially matches the energizing direction of the first energizing member. However, the Examiner has argued that the Abe, et al. publication does disclose such features, as follows:

"Abe et al. discloses a zoom view finder wherein a spring, ref. 284, urges the lens units, ref. 222 and 223, away from each other, paragraph 87. It would have been obvious to one of ordinary skill in the art at the time of the invention to realize that the spring could be used to urge the lens unit of Fig. 17 apart instead of together. This would be done since Abe et al. teaches both methods of using a spring to urge the lens together or a part can be interchangeable, see figs. 6A and 10. Thus the choice of one over the other would be no more than a design choice."

Applicant respectfully disagrees with the Examiner's argument. The Abe, et al. publication discloses a camera having a single spring which forces the movable lenses in opposite directions with respect to one another. There is nothing taught or suggested in the Abe, et al. publication of a second energizing member which generates a force in the direction that

substantially matches the energizing direction of the first energizing member. Applicant's independent claim 1, which recites such feature, and its respective dependent claims, therefore patentably distinguish over FIG. 17 in view of the Abe, et al. publication.

Moreover, with respect to the Examiner's argument that it would have been obvious to urge the lens units of FIG. 17 apart instead of together based on the teachings of the Abe, et al. publication, applicant respectfully submits that it would not have been obvious to a person skilled in the art at the time of the invention to use the compressed spring 284 of the Abe, et al. publication in the construction shown in FIG. 17 of applicant's drawings.

In particular, the construction of FIG. 17 shows a cam plate 46 which includes cam groove portions 46c, 46d engaged with lens units 56, 57 using follower portions 56a, 57a, so that when the cam plate 46 is moved around the optical axis, the follower portions 56a, 57a cause the lens units to move with respect to one another along the optical axis. As disclosed in paragraphs [0008] and [0009] of applicant's specification, the cam plate of FIG. 17 is energized leftward by a spring 47 as indicated by arrow B, and the lens members are energized to come closer together by a spring 59a, which transmits a force to the cam plate in a rightward direction indicated by arrow F. As further disclosed in paragraph [0013], the cam plate 46 is driven toward the wide-angle state by the moving force of the spring 47 in the direction B. However, the force of the spring 47 is weakened by the force transmitted by the spring 59a in an opposite direction, and as a result, more power is required to drive the cam plate 46 to the wide-angle state.

Applicant's claimed invention solves this problem by using an energizing member which energizes the lens units so that the lens units are moved away from each other. The constructions recited in applicant's claims would result in a reversal of the direction of the force F, as shown in FIG. 17, so that it no longer causes additional power consumption by the camera.

In contrast, the Abe, et al. publication teaches the use of two cam levers 240, 250 which include cam sections or grooves 243, 253 engaged by a driving pin 193 and which rotate with respect to one another by moving the driving pin along the cam sections, causing lenses 222, 223 engaged with the cam levers to move along an optical axis 021. (Paragraphs [0076]-[0082], [0081]; FIGS. 10, 11) The lenses 222, 223 of the Abe, et al. publication are urged in opposite directions along the optical axis 021 by a compressed spring 284 so that they remain in their given positions under the control of the driving pin 193 and so that the driving pin 193 is urged against respective cam surfaces of the cam sections 243, 253. (Paragraphs [0086]-[0087]) The compressed spring 284 is therefore used to transmit a force along the optical axis to maintain the lenses 222, 223 in their positions in contact with the cam levers (at 242 and 252) and to maintain the driving pin in contact with the cam surfaces.

There is, however, no teaching or suggestion in the Abe, et al. publication of transmitting a force to the cam member that affects the movement or the amount of power used for the movement of the cam member around the optical axis. Further, there is no teaching in the Abe, et al. publication of varying the direction of the force exhibited by the spring on the cam member so as to reduce consumption of power when the cam member is driven around the optical axis to the wide-angle state. Accordingly, a person skilled in the relevant art at the time of the invention would not be motivated to substitute the spring 59a in FIG. 17 of applicant's drawings with a compressed spring as disclosed in Abe, et al. Therefore, the teachings of FIG. 17 of applicant's drawings and the Abe, et al. publication cannot be combined so as to derive applicant's claimed invention.

Applicant's independent claims 1 and 5-7, and their respective dependent claims, therefore patentably distinguish over FIG. 17 of applicant's drawings in view of the Abe, et al.

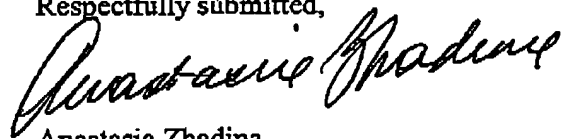
publication.

In view of the above, it is submitted that applicant's claims, as amended, patentably distinguish over the state of the art and the cited art of record. Accordingly, reconsideration of the claims is respectfully requested. If the Examiner believes that an interview would expedite consideration of this Amendment or of the application, a request is made that the Examiner telephone applicant's counsel at (212) 790-9200.

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Respectfully submitted,



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